

**Notice of Allowability**

Application No.

10/803,186

Examiner

Van T. Trieu

Applicant(s)

BRIDGELALL ET AL.

Art Unit

2636

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed on 16 March 2004.
2. ☒ The allowed claim(s) is/are 1-50.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 7/9/04 & 9/1/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. The following is an examiner's statement of reasons for allowance: there are no prior arts teaching or suggesting of an apparatus and method of an object location system for locating an object having an RFID tag, the object location system comprising:

**an object locator, the object locator receiving at least one transmission from the object and determining a general location of the object from the at least one transmission;**

an RFID reader, the RFID reader transmitting a plurality of transmitted signals to the RFID tag and receiving a plurality of backscatter-modulated signals from the RFID tag, at least two of the plurality of transmitted signals having a different fundamental frequency; and

**a distance calculator, the distance calculator determining a phase for each of the plurality of backscatter-modulated signals from the RFID tag, the distance calculator determining a distance to the RFID tag by determining a rate of change of the phase in the plurality of backscatter-modulated signals with respect to rate of change in the fundamental frequency of the plurality of transmitted signals.**

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Carrender** discloses a method and system can locate an RF transponder based on phase differences between signals transmitted to the RF transponder. The method transmits from a first transponder interrogate/reader to a second transponder or RFID tag with a first and second signals at first and second frequencies, respectively. The interrogator determines the phase difference between the two signals after the two signals are reflected back to the interrogator. The method can also determine a position distance and direction of the RFID tag by measuring the distances from two different locations of the interrogator to the RFID tag. [US 6,868,073]

**Ramamurthy et al** discloses an RFID reader directly controls computer network applications on the basis of information collected from an RFID tag. [US 6,853,294]

**Tuttle** discloses an RFID system for verifying whether an object that has been transported to a first destination has reached its intended destination. An RFID transceiver tag responds to an interrogator signal by modulating the RF carrier of the interrogator signal with the itinerary information and reflecting the modulated signal back toward the interrogator. The amplitude of the RF signal received by the interrogator from a modulated backscatter tag will decline approximately in proportion to the fourth

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power of the distance between the respective antennas of the tag and the interrogator.

[US 6,842,121]

**Nysen** discloses a system and method for determining a location employing encoded information devices dispersed through the environment. [US 6,259,991]

3. Any inquiry concerning this communication or earlier communications from examiner should be directed to primary examiner **Van Trieu** whose telephone number is (571) 272-2972. The examiner can normally be reached on Mon-Fri from 7:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. **Jeffery Hofsass** can be reached on (571) 272-2981.



**Van Trieu**  
**Primary Examiner**  
**Date: 11/21/05**